



Department
for Education

Consultation on proposed measure of disadvantaged pupils' attainment

Summary of responses and next steps

December 2015

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Foreword from the Head of Statistics

Measures of attainment gaps at both primary and secondary have historically been based on comparing the proportions of pupils in each group achieving an expected standard – particularly level 4 in reading, writing and maths at the end of key stage 2 and 5 good passes including English and maths at GCSE.

While this approach provides information on the difference between groups of pupils, it is limited as only one threshold is considered. This can mask important differences in the likelihood of pupils achieving well above or below the expected standard. For example, the gap between disadvantaged and other pupils achieving Level 4 and above at Key Stage 2 can be narrowing while the gap at Level 5 remains unchanged.

In considering how we measure and report changes in the education system, it is important that we provide a full and rounded picture of what is happening rather than a narrow focus on a particular threshold. Statistics best practice and guidance from the UK Statistics Authority highlights how important it is for statistics producers to put performance measures into full context (Official statistics, performance measurement and targets, May 2015). Providing greater information about pupils' performance across the results distribution would allow users to better understand the comparison between the two groups.

The existing measures also have one other weakness – changes in the accountability or examination system make comparisons over time impossible. The Wolf Reforms and changes to the early entry policy in 2014 already mean that the comparisons in the attainment gap using threshold measures at Key Stage 4 cannot be used reliably. With further changes to assessment and accountability due in 2016 and affecting both key stages, there would be no robust measures of progress over time.

To address these issues, DfE statisticians have developed and consulted on a new methodology for measuring attainment between different pupil groups which – like our new Progress and Attainment 8 accountability measures for schools – acknowledges the difference between achieving and exceeding. The new measure allows us to draw out progress in achieving good results for the highest and lowest attainers by looking at different points in the distribution and ensuring that every result and every pupil counts. This method will help to assess progress against the Government's objective of achieving greater social justice - educational excellence for all, regardless of background or characteristics.

I am pleased to see that users are generally supportive of the new measure and agree that it will provide useful information on pupils' attainment, both over this period of change and in support of the new accountability framework.

Due to the issues with the existing measures outlined above and the fact that the comparability of Key Stage 4 results over time using the existing measure has already been affected, our National Statistics publications will immediately use the new measure as the headline measure for comparing disadvantaged and other pupils. This will ensure we can draw robust comparisons between years. We advise all users to adopt the new measure for these comparisons. We will be looking over the next two years to expand the use of this methodology and ensure full National Statistics accreditation of the measure.

A handwritten signature in black ink, reading 'Iain Bell' in a cursive style.

Iain Bell

Head of Profession for Statistics at Department for Education

Introduction

The statistical working paper ‘Measuring disadvantaged pupils’ attainment gaps’ published in December 2014 set out a new methodology for comparing the attainment of different groups of pupils over time: in this case disadvantaged pupils and others.

The proposed measure was designed in response to reforms to assessments and accountability, in order to enable reliable comparisons over time. It was developed as a national level measure; and not to be used for school accountability or for the assessment of individual pupils. It was intended to be used alongside existing indicators.

The statistical working paper asked users for feedback. The proposal is outlined below, but full details can be found in the [original statistical working paper](#).

This document summarises the feedback received from users and the resulting next steps.

The working methodology

The Disadvantaged Pupils' Attainment Gap Index is calculated by ordering all pupils' point scores (in English and maths assessments) and deriving a mean rank for all disadvantaged pupils and a mean rank for all non-disadvantaged pupils. The difference between the two mean ranks provides the mathematical basis for the index.

The mean rank difference is then multiplied by 20 to give a potential value between +10 (every non-disadvantaged pupil has higher attainment than every disadvantaged pupil) and -10 (every disadvantaged pupil has higher attainment than every non-disadvantaged pupil). A value of zero would mean that there is no difference in the level of attainment between disadvantaged and non-disadvantaged pupils.

This can be visualised as though all pupils in England have been lined up in order of their attainment. If there were no relationship between being disadvantaged and where pupils are found in the line, the index would be zero. The more that disadvantaged pupils are clustered at the low attaining end, the higher the value of the index.

The paper also set out a range of presentation options:

- A 'barcode chart' displaying the spread of disadvantaged and other pupils in the national results
- A 'banana chart' displaying more detailed information about the 'shape' of the inequality present in the cohort.
- The 'gap in grades' method for giving context to the magnitude of differences between disadvantaged and other pupils' attainment in a given year.

Aims of the proposed measure

As part of the consultation, users were encouraged to provide feedback on the working methodology, including any suggestions for alternative approaches.

To be able to assess whether outcomes at national level are improving (the gap is getting smaller) over time, four key principles for the measure were set out. We were particularly interested in assessing whether users felt the measure proposed fulfils the following aims, to:

1. Be resilient to changes in grading systems;
2. Be resilient to changes to assessments and curricula;
3. Not require any new assessments or changes to arrangements which have already been announced;
4. Provide meaningful and transparent information for users of attainment gap statistics.

Summary of responses received

A list of the organisations providing input is included in **Annex A**.

Fulfilling the stated aims

Comments received on the first three criteria were generally supportive, with respondents agreeing that the method would allow us to draw sensible comparisons over time and bridge the period between old and new assessments, without requiring additional information to be collected.

It was pointed out that while the approach should minimise volatility, changes to the content and format of assessments could still have a small potential impact on comparability. Several users highlighted that more work should be carried out once new assessment data becomes available to ensure that we understand whether reforms have impacted the trend.

Responses received in relation to the fourth point were mixed.

Themes in the supportive responses included:

- Providing consistent analysis over time, as this measure does, allows transparent comparisons to be made between years.
- Moving away from attainment ‘thresholds’ is a step in the right direction. It is important to understand whether gaps are narrowing among the highest and lowest attainers, not just around the expected level.

The main concerns raised regarding the methodology were:

- The greater complexity of the measure could hinder its meaningfulness, because schools and parents will not be able to fully understand the method and interpret the resulting figures.
- It could be seen as less transparent than other measures because schools and others cannot replicate the methodology (eg for subgroups) without access to pupil level data.

Some respondents felt that a basket of indicators alongside the new measure would give the most meaningful and transparent information.

One alternative approach which was suggested was to use standard or scaled scores rather than percentile ranks. It was suggested this could be particularly advantageous if the measure were applied to school accountability.

Presentation options

A range of responses were received in relation to the presentation of the measure:

- Most users felt the 'barcode chart' was an effective way of communicating the general principle behind the measure.
- Although some users felt the 'banana chart' was complicated and not an intuitive way of communicating the measure, other users appreciated the more detailed comparisons. Some users thought knowing whether inequality is due more to pupils in the lower performing group slipping very far behind their peers, or failing to be among the top performers, is an important feature of the new methodology.
- Many users felt the 'gap in grades' was complicated and distracted from understanding the main methodology.
- Alternative visualisations were presented by some respondents, for example using arrows to demonstrate the position of groups or gaps on the scale of possible values.

Extending the publication

A number of users requested that more detail be published than was included in the initial working paper. Of particular interest were regional and local authority breakdowns which would be of interest to a range of users. Some respondents were also interested in school level versions of the indicator; however, other users firmly did not want to see similar measures used for school level accountability.

Many users were also interested in seeing breakdowns for other groups, particularly for disadvantage and ethnicity, for pupil premium subgroups, or for other characteristics eg gender. There was also interest in publishing a back series of results for pupils eligible for free school meals.

Other responses

Other issues were raised by some respondents.

In relation to the point score used to order pupils respondents suggested using:

- A progress based measure instead of or alongside attainment to rank pupils, or using Progress 8 to assess disadvantaged pupils' outcomes.
- A wider range of qualifications than English and maths at key stage 4, eg an Attainment 8 point score.

For the 0 to 10 scale chosen to present the range of possible values for the measure, an alternative calculation was suggested based on using a 0 to 100 scale and centring the measure on 50 rather than zero where the two groups are equal.

Response to feedback and concerns raised

Based on the supportive feedback received, the lack of major concerns with the soundness of the methodology, and the agreement from users that it is important to provide comparisons across the period, we will proceed with publishing the proposed measure as outlined in the original statistical working paper.

No major changes to the methodology as presented are proposed, though we will continue to improve the way it is communicated and presented.

- Attainment will continue to be the outcome assessed. To understand the cumulative effect of inequality at age 11 or 16 it is the best indicator because it combines both prior attainment and progress effects.
- English and maths will continue to be used at key stage 4. Over this period they form the most consistent attainment measure because the reforms are likely to cause changes to entry behaviour for other qualifications.
- The score will continue to be presented centred on zero. This makes the relationship with change over time clearer, as percentage changes in the value of the indicator will be proportional to the percentage change in the underlying mean rank difference.
- Versions of the 'bar code' and 'banana charts' are likely to be presented in future communications but the gap will not be indexed to grades.

In response to the concerns users raised around the measure's complexity and the need to continue using clear and simple indicators, we have decided that the appropriate place to present the measure in 2015 is alongside other attainment indicators in the Statistical First Releases (SFRs) at key stage 2 and key stage 4.

The underlying data used to produce the 'banana' chart (a breakdown of the proportion of pupils achieving each level of attainment) will be provided, which may be more accessible than the chart itself. This will help those users who are interested in exploring gaps among higher and lower attainers and improve transparency.

Expanding the range of information published is not in scope this year but will be given further consideration. There will be major changes to the attainment data published at both key stage 2 and key stage 4 in 2016 once new assessments and accountability measures are introduced. Decisions about whether further information using this methodology should be published in 2016 and onwards (for example, at local authority level or for other groups of pupils) will be made in the context of this wider programme of changes.

Further assessment of the indicator's robustness will be undertaken once major changes to statutory assessments and GCSE grading occur in 2016 and 2017.

Next steps

The next steps for this methodology will be implemented as set out below:

Results year	Approach to publication of the new methodology
2014/15 (Publications in December 2015 and January 2016)	<ul style="list-style-type: none">• Will be published as part of KS2 and KS4 attainment SFRs alongside other indicators of attainment by characteristics• Published at national level• These tables and commentary section will be clearly marked as experimental statistics
2015/16 (Publications in December 2016 and January 2017)	<ul style="list-style-type: none">• Will be published as part of KS2 and KS4 attainment SFRs alongside other indicators of attainment by characteristics• Explore options for implementing this measure for other characteristics or at regional level• These tables and commentary section will be clearly marked as experimental statistics• Follow up by exploring impact of 2016 accountability changes at key stage 4 and scaled scores at key stage 2• Seek to badge as National Statistics

Annex A: List of organisations who provided feedback

Responses were received from representatives of the following organisations:

- Ofsted
- House of Commons Education Select Committee
- National Consortium for Examination Results
- Fischer Family Trust
- The Future Leaders trust
- University of York and the schools, students and teachers network
- Greater London Authority
- Islington Council
- Walsall Council
- West Berkshire Council
- The Ashley School Academy Trust
- Kingsmead School
- Knights Templar School
- REAch2 Staffordshire Academy Trust
- Donkin Education Limited
- Local Schools network
- A small number of individuals

DfE representatives met and discussed the measure with representatives of the following organisations:

- Ofsted
- National Association of Schoolmasters Union of Women Teachers (NASUWT)
- Fischer Family Trust
- The Future Leaders trust
- Greater London Authority
- Save the Children



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